Notice of Allowability	Application No.	Applicant(s)	
	10/807,916	CHI ET AL.	
	Examiner	Art Unit	
	Allen C. Ho	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *RCE filed on 03 July 2007*.

2. ☒ The allowed claim(s) is/are *2,5,12-14 and 21*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 20070703
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Allowable Subject Matter

1. Claims 2, 5, 12-14, and 21 are allowed.

2. The following is an examiner's statement of reasons for allowance:

With regard to claim 2, the prior art discloses a field emission display that comprises: a first substrate and a second substrate facing one another and having a predetermined gap therebetween; an electron emission assembly formed on the first substrate for emitting electrons; an illumination assembly formed on the second substrate for displaying images responsive to electrons emitted from the electron emission assembly; and a grid plate mounted between the first substrate and the second substrate, and configured to focus the electrons emitted from the electron emission assembly, wherein the grid plate includes a mask section having a plurality of apertures for passing the electrons and having supports mounted to one side of the mask section from the first substrate, and wherein the mask section has a predetermined mask section thickness and the supports have a predetermined support height, the predetermined support height being greater than the predetermined mask section thickness, and wherein the supports are made of a conducting material. However, the prior art fails to disclose a mask section and supports made of same material as claimed.

With regard to claim 5, the prior art discloses a field emission display that comprises: a first substrate and a second substrate facing one another and having a predetermined gap therebetween; an electron emission assembly formed on the first substrate for emitting electrons; an illumination assembly formed on the second substrate for displaying images responsive to

electrons emitted from the electron emission assembly; and a grid plate mounted between the first substrate and the second substrate, and configured to focus the electrons emitted from the electron emission assembly, wherein the grid plate includes a mask section having a plurality of apertures for passing the electrons and having supports mounted to one side of the mask section from the first substrate, and wherein the mask section has a predetermined mask section thickness and the supports have a predetermined support height, the predetermined support height being greater than the predetermined mask section thickness, and wherein the supports are made of a conducting material. However, the prior art fails to disclose supports that are formed between at most every other row of the apertures formed in the mask section and along one direction to form a stripe pattern as claimed.

With regard to claim 12, the prior art discloses a field emission display that comprises: a first substrate and a second substrate facing one another and having a predetermined gap therebetween; an electron emission assembly formed on the first substrate for emitting electrons, wherein the electron emission assembly comprises electron emission sources and electrodes, wherein the electrodes include cathode electrodes and gate electrodes formed in a stripe pattern, and wherein the cathode electrodes and the gate electrodes are substantially perpendicular to one another and insulated from one another by an insulation layer; an illumination assembly formed on the second substrate for displaying images responsive to electrons emitted from the electron emission assembly; and a grid plate mounted between the first substrate and the second substrate, and configured to focus the electrons emitted from the electron emission assembly, wherein the grid plate includes a mask section having a plurality of apertures for passing the electrons and having supports mounted to one side of the mask section from the first substrate, and wherein the

mask section has a predetermined mask section thickness and the supports have a predetermined support height, the predetermined support height being greater than the predetermined mask section thickness, and wherein the supports are made of a conducting material. However, the prior art fails to disclose cathode electrodes that are formed on an insulation layer over the gate electrodes, and the electron emission sources are mounted on the cathode electrodes as claimed.

With regard to claim 13, the prior art discloses a field emission display that comprises: a first substrate and a second substrate facing one another and having a predetermined gap therebetween; an electron emission assembly formed on the first substrate for emitting electrons; an illumination assembly formed on the second substrate for displaying images responsive to electrons emitted from the electron emission assembly; and a grid plate mounted between the first substrate and the second substrate, and configured to focus the electrons emitted from the electron emission assembly, wherein the grid plate includes a mask section having a plurality of apertures for passing the electrons and having supports mounted to one side of the mask section from the first substrate, and wherein the mask section has a predetermined mask section thickness and the supports have a predetermined support height, the predetermined support height being greater than the predetermined mask section thickness, and wherein the supports are made of a conducting material. However, the prior art fails to disclose tapered supports such that a contacting area of the supports toward the mask section are larger than a contacting area of the supports toward the first substrate as claimed.

With regard to claim 14, the prior art discloses a field emission display that comprises: a first substrate and a second substrate facing one another and having a predetermined gap therebetween; an electron emission assembly formed on the first substrate for emitting electrons,

wherein the electron emission assembly comprises electron emission sources and electrodes, wherein the electrodes include cathode electrodes and gate electrodes formed in a stripe pattern, and wherein the cathode electrodes and the gate electrodes are substantially perpendicular to one another and insulated from one another by an insulation layer; an illumination assembly formed on the second substrate for displaying images responsive to electrons emitted from the electron emission assembly; and a grid plate mounted between the first substrate and the second substrate, and configured to focus the electrons emitted from the electron emission assembly, wherein the grid plate includes a mask section having a plurality of apertures for passing the electrons and having supports mounted to one side of the mask section from the first substrate, and wherein the mask section has a predetermined mask section thickness and the supports have a predetermined support height, the predetermined support height being greater than the predetermined mask section thickness, and wherein the supports are made of a conducting material. However, the prior art fails to disclose: gate electrodes that are formed on the insulation layer over the cathode electrodes; an opening is formed in the gate electrodes at each region where the cathode electrodes and the gate electrodes intersect; and the electron emission sources are formed on surface areas of the cathode electrode exposed by the openings as claimed.

With regard to claim 21, the prior art discloses a grid plate apparatus that comprises: a grid plate including a mask section having a predetermined mask section thickness and having a plurality of apertures through the predetermined mask section thickness in a predetermined pattern; and a plurality of support having a predetermined support height, wherein the predetermined support height is greater than the predetermined mask section thickness, and wherein the supports are made of a conducting material. However, the prior art fails to disclose

tapered supports such that a contacting area of the supports toward the mask section is larger than a contacting area of the supports toward the first substrate as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen C. Ho whose telephone number is (571) 272-2491. The examiner can normally be reached on Monday - Friday from 9:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Allen C. Ho/
Primary Examiner
Art Unit 2882

03 August 2007